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UNITED STATES ARMY
HEALTH CARE STUDIES AND
CLINICAL INVESTIGATION ACTIVITY

EVALUATION OF AMBULATORY PATIENT GROUP (APG) SOFTWARE USING CHAMPUS PROFESSIONAL SERVICES CLAIMS DATA (BETA TEST)

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FORT SAM HOUSTON, TEXAS 78234

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This Consultative Report documents Beta Testing of Ambulatory Patient Group (APG) Software using CHAMPUS Professional Services Classification Study Claims files. In a collaborative effort with Health Care Financing Administration and their contractor for APG development, 3M HIS, HCSCIA agreed to perform beta testing of the APG classification software. Results indicate that software is very efficient, well documented, and easy to use. Out of 297 APGs all except one group were required for grouping CHAMPUS professional services claims.

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ACKNOWLEDGMENTS

The author would like to express appreciation to the Fort Detrick Data Processing Center personnel for their support in the installation of the Ambulatory Patient Group software. Their willingness to lend their expertise greatly minimized both the time required for the installation process and time spent on resolution of problems encountered. We especially would like to thank Mr. Jim Dukes, Director of the Data Processing Center, for making the resources available, and to Mr. David Bolling, Mr. Bill O'Neal, and Mr. David Kendall for their timely assistance and expertise.

INTRODUCTION

Purpose

The purpose of this consultative study is to document the beta testing of the Ambulatory Patient Group (APG) software as applied to Professional Services claims data.

Background

The CHAMPUS Professional Services Classification Study (CPSCS) will use Ambulatory Patient Groups (APGs) for classification of CHAMPUS ambulatory data. Development of the APGs has just been completed by 3M Health Information Systems under a cooperative agreement with Office of Research, Health Care Financing Administration. As a collaborative effort, CPSCS researchers have agreed to perform Beta testing of the APG grouper software in conjunction with their evaluation of APG application to CHAMPUS ambulatory care claims.

This report discusses the initial installation and use of the APG grouper software. Two interim reports have been furnished to 3M HIS. This Final Report incorporates and synthesizes previous discussion and findings.

Ambulatory Patient Group Classification

Ambulatory Patient Groups were developed to classify ambulatory patient services for a prospective payment system. Designed to be used for payment of facility costs, they can be used in a wide variety of settings (hospital outpatient departments, same day surgery units, emergency rooms, outpatient clinics, etc.).

Ambulatory patient groups were designed for a visit-based payment system, and they can be used to explain the amount and type of resources used in the visit. Patients in each APG have similar clinical characteristics, similar resource use, and similar cost. There are 145 procedure APGs, 80 medical APGs, and 72 ancillary APGs, for a total of 297 APGs.

APG assignment algorithms are incorporated into a computer program called the APG Grouper. This program uses several subroutines and table lookups for APG assignment. APG assignment is very similar to the Diagnosis Related Group (DRG) assignment process for inpatient data. However, one major difference is that while only one DRG was assigned an inpatient record, multiple APGs are assigned visit records, depending on the number of services performed.

METHODOLOGY AND DATA

Methodology

The magnetic tape containing the APG software was provided by 3M HIS. The programs and files on this tape were installed on the Fort Detrick Data Processing Center (DPC) computer at Fort Detrick, Maryland. Accompanying the tape was the notebook version of Ambulatory Patient Groups Definitions Manual Version 1.0.

CHAMPUS professional services claims files had already been extracted from the Tri-Service Statistical Database for the CPSCS. A sample from these CPSCS files were extracted into a sequential record file and used as input to the APG grouper program. A grouped file was output by the APG program. This file has been analyzed to insure that records have grouped correctly according to the grouping algorithms. Additionally, assessments have been made regarding completeness of the documentation, ease of installation and use, and the efficiency of the grouping program.

Data and Limitations

A test data set was extracted from the CHAMPUS Professional Services Classification Study Encounter files. The data records were from all three military services for Fiscal Year 1989 and totaled 176,868 records. Data elements extracted included only the fields required by the APG Grouper, i.e., Age, Gender, Discharge status or disposition, Date of service, Date of Birth, Diagnosis(es), and Procedure(s). APGs would be assigned based on as many as twenty-seven diagnoses and/or twenty-seven procedures. The test data set contained from one to seven diagnoses and one to seven procedure codes.

The original claims records consisted of a summary record plus detail records for each visit or service performed. Each summary record could have up to 32 detail records. In creating the Encounter records for the CPSCS study, claims were combined or separated, as approriate, to get all visits and services provided on one day into one "Encounter" record.

Modification of Data

Diagnoses and procedure codes from the CHAMPUS claims files were modified when required. The APG grouper uses codes from the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) for diagnoses, and Physician's Current

Procedural Terminology, Fourth Edition (CPT-4) for procedures. The CHAMPUS professional services claims data contained only the first four characters of the five-byte ICD-9-CM code. Additionally, some CHAMPUS-unique procedure codes were used.

A table was developed and used to assign a five-digit code to any CHAMPUS diagnosis that required an extension to five digits in ICD-9-CM. A second table converted CHAMPUS-unique procedure codes to current CPT-4 codes. The conversion of diagnoses and procedures were accomplished prior to creation of the sample encounter files for the CPSCS. For the beta testing of the APG software, the fields required for grouping were extracted from the encounter data files and already contained the converted diagnosis and procedure codes required by the Grouper.

FINDINGS

The Ambulatory Patient Group software was tested and found to be very efficient and easy to use. No abberations were discovered between the grouping algorithmns found in the documentation and the groups returned from the grouper program. The medical APGs require the '90000' visit code in the algorithm for APG assignment, which is only one of the visit codes used in coding ambulatory care data. The grouper outputs several variables in addition to the APG assignments; this additional information will be of tremendous value in establishment of payment policies.

DISCUSSION

Documentation

In general, the documentation of the APG software is very good. The Installation Manual that accompanied the tape gave step-by-step instructions for installation of the software. The Definitions Manual (notebook form) supplied sufficient background information and reference material needed to use the APGs.

The following minor corrections and/or suggestions are offered for the Installation Manual:

1. Page 2-1, in heading of Figure 2-1, change '12' to '13' files.

2. Page 3-1, in Figure 3-1, change region size from 124, or omit region size. On the Fort Detrick Data Processing System, if

this region parameter is deleted, the program runs without errors using the COBOL system default of Region=1024K.

3. Some spacing in JCL examples is questionable. In Figure 2-4, line 2, it appears there is a space before parm; in line 5, also a space before (50. In Figure 2-5, last line, there appears to be a space after "trk,".

4. Fort Detrick Data Processing Center personnel aided in the installation of the software. During the installation process we added to the COBOL program JCL in Figure 3-1. We changed the LKED.SYSIN to LKED.SYSLIN. We added the statement

```
//GO.STEPLIB DD
//           DD DSN=NAME.OF.LOADLIB,DISP=SHR.
```

5. In Figure 1-2, under MAPGERR and PAPGERR, the APGs in parentheses under coding column were confusing; i.e., 997, 998, 995, 996. After working through the output groupings, I now realize that the 999 is the error code returned as output when an error condition is met. Initially I was also expecting to see some of the 995-998 error codes.

Installation Process

The instructions were complete and very good for loading the programs. We amended the instructions as mentioned in para 4 above. More information was provided in the Installation Manual than was needed for initial installation. However, if grouping programs needed customization, then the additional information provided in Chapter 4 and Appendices would be very useful.

After loading the files, we ran the COBTEST program against the test data furnished on the tape. All records grouped as "expected"; i.e., the "expected" in the data file and the "actual" as output from the grouper program matched exactly. A copy of the test data base was made, and in the copy changes were made to some of the "expected" fields. The program was run against the changed file, and all records that had been changed and were different in the "expected" and "actual" comparisons were output. The grouper program seems to be linking to subroutines and libraries appropriately.

Ease of Use

Once a driver program was written, the grouper was very easy to use. However, without a general driver program, use is restricted to analysts who can do their own programming or to those with programming resources available. For universal acceptance and use in diverse settings, it would be very beneficial to

furnish a general driver program on the installation tape of files.

Efficiency of Software

The APG grouper ran very efficiently on the IBM-3090 computer at Fort Detrick DPC. The CPSCS testing file processed consisted of 176,868 records (LRECL=92). Records were output to a sequential disk file (LRECL=170). CPU total processing time was 0 min. 16.54 sec. Total elapsed time was 1.0 minute.

Output Format

The grouper output included one field for medical APG, and a procedure APG field for every procedure coded in the record. To accumulate totals for APG assignments, the medical and procedure APG fields were summed. This worked well when only procedure APGs were present. However, if a medical APG were assigned, you would also get a procedure APG for the visit. Therefore, for medical APGS, there would be an APG assigned for each procedure in addition to the medical APG.

The explanation of the consolidation and the ancillary packaging flags was not sufficient in the installation manual. Although I understood the concept of consolidation and packaging, I did not find a specific explanation of the 0, 1 codes. I concluded that the 1's are pointers to APG fields that should be consolidated or packaged. I believe more information in the Installation Manual would be helpful regarding the codes returned by the Grouper program. Also, since the ancillary packaging also includes CPT visit codes, perhaps the coding definition in Figure 1-2 should be expanded.

There was a misunderstanding of the APG and codes referred to as "SSF's", or Major Signs, Symptoms, and Findings. I was erroneously equating those to the ICD-9-CM Chapter Eleven, "Symptoms, Signs, and Ill-Defined Conditions". I believe this would be a common error for analysts familiar with the ICD classification.

Output Groups

Most of the APGs were used in the grouping process. Table 1 shows the APGs that had zero frequencies. There were several reasons why these APGs were not used. The medical APGs required the '90000' visit code before the record could be assigned to the visit APG. Since this visit code was seldom used, several medical APGs had a frequency of zero.

TABLE 1
AMBULATORY PATIENT GROUPS WITH ZERO FREQUENCIES
IN CHAMPUS SAMPLE ENCOUNTER DATA SET

APG	TITLE
131	Chemotherapy by infusion
347	Hyperthermia
365	Anesthesia
500	Class I chemotherapy drugs
501	CLASS II chemotherapy drugs
502	CLASS III chemotherapy drugs
602	Prostatic malignancy
603	Lung malignancy
631	Head and spine injury
654	Individual supportive treatment for senility, dementia, & mental retardation
656	Comprehensive psychiatric evaluation and treatment age > 17
657	Comprehensive psychiatric evaluation and treatment age 0-17
658	Family psychotherapy
659	Group psychotherapy
664	Comprehensive therapy for drug abuse with mental illness
669	Family therapy for drug abuse
670	Group therapy for drug abuse
676	Neonate and congenital anomaly
691	Routine prenatal care
693	Routine postpartum care
694	Maternal postpartum complication
723	Sexually transmitted disease in males
736	TIA, CVA & oth cerebrovascular events
751	Cataracts
827	Major signs, symptoms and findings
872	Obesity
932	Aids related complex & HIV Infection with complications
946	Adult medical examination
948	Counseling
950	Repeat prescription

In some APGs, CHAMPUS fiscal intermediary payment policies affected the data and consequently the assignment of APGs. For example, CHAMPUS directs that the anesthesia codes 00100-01999 and 99100-99140 from CPT-4 not be used, but rather that anesthesia charges be reported under the surgical procedure code with the provider specialty coded as anesthesiology or anesthetist, as appropriate.

Some APGs were not used because of the mapping algorithms used for procedures. The maps were developed using the 1990 CPT codes, but the software was written using the 1989 edition. This difference explained the absence of encounters in APG 131, Chemotherapy by infusion. There were almost five hundred encounters in the data, but they had the new procedure codes rather than the ones required by the grouper software.

APGs 500 through 502 are for Chemotherapy drugs, Classes I, II, and III. Although CHAMPUS does have data for those APGs, they are not included in the professional services data used for this test; there are separate files for drugs.

To determine whether the records containing a visit code would have grouped properly had they been coded "90000' for the visit, the data were adjusted by adding a procedure code "90000" for any record containing visit codes 90010 through 90699. A second pass of the data was made, and this time only 10 APGs had zero frequencies. Table 2 shows the APGs with zero frequencies in the second pass of the data, and the reasons for non-assignment to those APGs. Analysis of these APGs revealed that for data to group to the mental health APGs on the list, these also needed the "90000" visit code. The procedure codes in the CPT 908xx series were used in the data for mental health visits. These ranges of codes were not included in the adjusted processing when the additional '90000' visit code was added to the data.

By further adjusting the data to include the '90000' visit code for mental health APGs and APG 950 (Repeat Prescription), changing the CPT codes from the 1990 version to the 1989 version, and retrieving the drug data from additional files, all of the APGs would be used except two. APGs 347, Hyperthermia, and 365, Anesthesia, would remain empty for lack of data.

TABLE 2
AMBULATORY PATIENT GROUPS WITH ZERO FREQUENCIES
IN ADJUSTED CHAMPUS SAMPLE ENCOUNTER DATA SET

APG	TITLE	REASON FOR ZERO FREQ.
131	Chemotherapy by infusion	1990 CPT codes in data; 1989 CPT codes in grpr.
347	Hyperthermia	True zero frequency in data.
365	Anesthesia	Zero frequency in data; anesthesia costs coded using surgical procedure code.
500	Class I chemotherapy drugs	Not included in data files used.
501	CLASS II chemotherapy drugs	Not included in data files used.
502	CLASS III chemotherapy drugs	Not included in data files used.
664	Comprehensive therapy for drug abuse with mental illness	Did not have '90000' visit code.
669	Family therapy for drug abuse	Did not have '90000' visit code.
950	Repeat prescription	Did not have '90000' visit code.

Appendix A contains a complete listing of the APG frequencies. The "FREQ" and "PERCENT" columns show the results of the first grouping of the data. The last two columns, "ADJ_FREQ" and "ADJUSTED PERCENT" show the frequencies after the "90000" visit code was added for encounters that had a visit code 90010 through 90699 coded. The number of procedures that were ungroupable (APG 999) decreased from 27.8 percent to 12.3 percent. Expansion of the range of codes to include the mental health visit codes for assignment of the "90000" visit code would further decrease the ungroupables. It is important to note here that these percents apply to the procedures and not to encounters. In many cases an encounter was assigned a "999" for a medical APG, but received a

legitimate APG for the procedural APGs. The frequencies presented in Appendix A are the sum of the medical APGs and all procedure APGs. No consolidation or bundling has been done prior to these accumulations.

The consolidation and ancillary packaging flags seemed to be working correctly. Because all APGs are returned by the Grouper, along with flags for "suggested consolidation or packaging", the APGs are very versatile and can be adapted for varied implementation. As policies are implemented or changed, software programs utilizing the APGs could be changed, and the grouper itself would not require changes.

Except for error APG 999, none of the error APG codes were used. The installation manual had listed error APGs 495, 521, 961, 976, and 977. As previously mentioned, these are apparently used in the grouping program but not as output APGs.

Attached as Appendix B are frequency listings for variables used in the grouping algorithms.

As mentioned earlier, the most time-consuming part of the installation and use of the software was writing the COBOL driver program that would accommodate various numbers of diagnoses and procedures. Although certain fields are identified in the installation manual as being output from the grouper, other fields are also returned (according to the program COBTEST on the tape). I did not know the length of these fields except from the program example, which was processing five diagnoses and procedures. I deducted that the maximum number of diagnoses and/or procedures that can be grouped in a record (27) minus the number in the file being processed, times the width of the sub-fields, gives the width of the extra fields output (that are not listed on page 1-3). This may be obvious to the programmers who wrote the software, but it is not readily apparent to the users. However, this must be taken into account in order to specify the correct location of the desired output variables in the string returned from the grouper.

The fields required for grouping the data could be minimized further if date of service (DOS) and date of birth (DOB) were deleted. Although this information would be useful in cases where age in the data were in error, the extra space that is required on the input record is substantial when millions of records are being grouped. We are considering for our study the inclusion of a "dummy" DOB and DOS in the driver program, so that the grouper will still have the required fields available for input, but the input record lengths can be shortened. This would work, I believe, if ages had been edited at some point prior to grouping to APGs.

CONCLUSIONS

The APG Grouper is a very sophisticated and efficient software program. With minimal exceptions, the program and subroutines are well documented. The software is easy to use. No evidence of program "bugs" has been found. The output groupings match the documentation for APG groupings as defined in the Definitions Manual. Certain aspects of the grouping algorithms are controversial, such as the '90000' visit code, but these are separate considerations and not part of the software test. Neither has this report addressed any evaluation of the APG system as a whole. Although the Ambulatory Visit Groups intuitively seem very promising, they will be evaluated in detail as they are applied to the CHAMPUS Professional Services Classification Study files, and results will be reported in a separate report.

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APPENDIX A

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APPENDIX.A

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
1	PHOTOCHEMOTHERAPY	42	0.01	42	0.01
2	SUPERFICIAL NEEDLE BIOPSY AND ASPIRATION	83	0.02	83	0.02
3	SIMPLE INCISION AND DRAINAGE	377	0.09	377	0.08
4	COMPLEX INCISION AND DRAINAGE	27	0.01	27	0.01
5	DEBRIDEMENT OF NAILS	74	0.02	74	0.02
6	SIMPLE DEBRIDEMENT AND DESTRUCTION	2197	0.52	2197	0.49
7	SIMPLE EXCISION AND BIOPSY	1182	0.28	1182	0.26
8	COMPLEX EXCISION, BIOPSY AND DEBRIDEMENT	519	0.12	519	0.11
9	LIPECTOMY AND EXCISION WITH RECONSTRUCTI	2	0.00	2	0.00
10	SIMPLE SKIN REPAIR	425	0.10	425	0.09
11	COMPLEX SKIN REPAIR	100	0.02	100	0.02
12	SKIN AND INTEGUMENT GRAFT, TRANSFER AND	163	0.04	163	0.04
27	SIMPLE INCISION AND EXCISION OF BREAST	215	0.05	215	0.05
28	BREAST RECONSTRUCTION AND MASTECTOMY	86	0.02	86	0.02
53	OCCUPATIONAL THERAPY	87	0.02	87	0.02
54	PHYSICAL THERAPY	5162	1.22	5162	1.14
55	DIAGNOSTIC ARTHROSCOPY	65	0.02	65	0.01
56	THERAPEUTIC ARTHROSCOPY	173	0.04	173	0.04
57	REPLACEMENT OF CAST	392	0.09	392	0.09
58	SPLINT, STRAPPING AND CAST REMOVAL	432	0.10	432	0.10
59	TREATMENT OF CLOSED FRACTURE & DISLOCATI	48	0.01	48	0.01
60	TREATMENT OF CLOSED FRACTURE & DISLOCATI	267	0.06	267	0.06
62	TREATMENT OF OPEN FRACTURE AND DISLOCATI	38	0.01	38	0.01
63	JOINT MANIPULATION UNDER ANESTHESIA	15	0.00	15	0.00
64	SIMPLE MAXILLOFACIAL PROCEDURES	139	0.03	139	0.03
65	COMPLEX MAXILLOFACIAL PROCEDURES	152	0.04	152	0.03
66	INCISION OF BONE, JOINT AND TENDON	80	0.02	80	0.02
67	BUNION PROCEDURES	124	0.03	124	0.03
68	EXCISION OF BONE, JOINT AND TENDON OF TH	205	0.05	205	0.05
69	EXCISION OF BONE, JOINT & TENDON EXCEPT	47	0.01	47	0.01
70	ARTHROPLASTY	20	0.00	20	0.00
71	HAND AND FOOT TENOTOMY	22	0.01	22	0.00
72	SIMPLE HAND AND FOOT REPAIR EXCEPT TENOT	108	0.03	108	0.02
73	COMPLEX HAND AND FOOT REPAIR	61	0.01	61	0.01
74	REPAIR,EXCEPT ARTHROTOMY,OF BONE,JOINT,T	91	0.02	91	0.02
75	ARTHROTOMY EXCEPT OF HAND AND FOOT	27	0.01	27	0.01
76	ARTHROCENTESIS AND LIGAMENT OR TENDON IN	888	0.21	888	0.20
77	SPEECH THERAPY	117	0.03	117	0.03
79	PULMONARY TEST AND THERAPY EXCEPT SPIROM	210	0.05	210	0.05
80	NEEDLE AND CATHETER BIOPSY, ASPIRATION,	45	0.01	45	0.01
81	SIMPLE ENDOSCOPY OF THE UPPER AIRWAY	125	0.03	125	0.03
82	COMPLEX ENDOSCOPY OF THE UPPER AIRWAY	40	0.01	40	0.01
83	SIMPLE ENDOSCOPY OF THE LOWER AIRWAY	83	0.02	83	0.02
84	COMPLEX ENDOSCOPY OF THE LOWER AIRWAY	16	0.00	16	0.00
85	NASAL CAUTERIZATION AND PACKING	35	0.01	35	0.01
86	SIMPLE LIP, MOUTH AND SALIVARY GLAND PRO	64	0.02	64	0.01

OURCE OF DATA: TRI-SERVICE CHAMPUS STATISTICAL DATABASE, CHAMPUS PROFESSIONAL SERVICES CLASSIFICATION STUDY FILES.
OTE: DATA WERE ADJUSTED BY ADDING THE "90000" VISIT CODE FOR ALL VISITS TO GET ADJUSTED APG GROUPINGS.

APPENDIX A (CONTINUED)

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
87	COMPLEX LIP, MOUTH AND SALIVARY GLAND PR	44	0.01	44	0.01
88	MISCELLANEOUS SINUS, TRACHEAL AND LUNG P	41	0.01	41	0.01
105	EXERCISE TOLERANCE TESTS	493	0.12	493	0.11
106	ECHOCARDIOGRAPHY	696	0.16	696	0.15
107	PHONOCARDIOGRAM	2	0.00	2	0.00
108	CARDIAC ELECTROPHYSIOLOGIC TESTS	38	0.01	38	0.01
109	VASCULAR CANNULATION WITH NEEDLE AND CAT	267	0.06	267	0.06
110	DIAGNOSTIC CARDIAC CATHETERIZATION	319	0.08	319	0.07
111	ANGIOPLASTY AND TRANSCATHETER PROCEDURES	83	0.02	83	0.02
112	PACEMAKER INSERTION AND REPLACEMENT	8	0.00	8	0.00
113	REMOVAL AND REVISION OF PACEMAKER AND VA	3	0.00	3	0.00
114	MINOR VASCULAR REPAIR AND FISTULA CONSTR	35	0.01	35	0.01
115	SECONDARY VARICOSE VEINS AND VASCULAR IN	61	0.01	61	0.01
116	VASCULAR LIGATION	7	0.00	7	0.00
117	CARDIOPULMONARY RESUSCITATION AND INTUBA	88	0.02	88	0.02
131	CHEMOTHERAPY BY INFUSION	.	.	.	.
132	CHEMOTHERAPY EXCEPT BY INFUSION	92	0.02	92	0.02
133	TRANSFUSION AND PHLEBOTOMY	87	0.02	87	0.02
134	BLOOD AND BLOOD PRODUCT EXCHANGE	7	0.00	7	0.00
135	DEEP LYMPH STRUCTURE AND THYROID PROCEDU	32	0.01	32	0.01
136	ALLERGY TESTS AND IMMUNOTHERAPY	723	0.17	723	0.16
157	ALIMENTARY TESTS AND SIMPLE TUBE PLACEME	18	0.00	18	0.00
158	ESOPHAGEAL DILATION WITHOUT ENDOSCOPY	23	0.01	23	0.01
159	PERCUTANEOUS AND OTHER SIMPLE GASTROINTE	28	0.01	28	0.01
160	ANOSCOPY WITH BIOPSY AND DIAGNOSTIC PROC	412	0.10	412	0.09
161	PROCTOSIGMOIDOSCOPY WITH EXCISION OR BIO	54	0.01	54	0.01
162	DIAGNOSTIC UPPER GASTROINTESTINAL ENDOSC	340	0.08	340	0.08
163	THERAPEUTIC UPPER GASTROINTESTINAL ENDOS	27	0.01	27	0.01
164	DIAGNOSTIC LOWER GASTROINTESTINAL ENDOSC	242	0.06	242	0.05
165	THERAPEUTIC LOWER GASTROINTESTINAL ENDOS	77	0.02	77	0.02
166	ERCP & OTHER MISCELLANEOUS GASTROINTESTI	31	0.01	31	0.01
167	TONSIL AND ADENOID PROCEDURES	349	0.08	349	0.08
168	HERNIA AND HYDROCELE PROCEDURES	196	0.05	196	0.04
169	SIMPLE HEMORRHOID PROCEDURES	35	0.01	35	0.01
170	SIMPLE ANAL AND RECTAL PROCEDURES EXCEPT	20	0.00	20	0.00
171	COMPLEX ANAL AND RECTAL PROCEDURES	50	0.01	50	0.01
172	PERITONEAL PROCEDURES AND CHANGE OF INTR	21	0.00	21	0.00
173	MISCELLANEOUS DIGESTIVE PROCEDURES	28	0.01	28	0.01
183	SIMPLE URINARY STUDIES AND PROCEDURES	117	0.03	117	0.03
184	RENAL EXTRACORPOREAL SHOCK WAVE LITHOTRI	43	0.01	43	0.01
185	URINARY CATHETERIZATION AND DILATATION	211	0.05	211	0.05
186	HEMODIALYSIS	50	0.01	50	0.01
187	PERITONEAL DIALYSIS	4	0.00	4	0.00
188	SIMPLE CYSTOURETHROSCOPY	317	0.07	317	0.07
189	COMPLEX CYSTOURETHROSCOPY AND LITHOLAPAX	100	0.02	100	0.02
190	PERCUTANEOUS RENAL ENDOSCOPY, CATHETERIZ	8	0.00	8	0.00

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APPENDIX A (CONTINUED)

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
191	CYSTOTOMY	8	0.00	8	0.00
192	SIMPLE URETHRAL PROCEDURES	7	0.00	7	0.00
193	COMPLEX URETHRAL PROCEDURES	8	0.00	8	0.00
209	TESTICULAR AND EPIDIDYMAL PROCEDURES	39	0.01	39	0.01
210	INSERTION OF PENILE PROSTHESIS	4	0.00	4	0.00
211	COMPLEX PENILE PROCEDURES	11	0.00	11	0.00
212	SIMPLE PENILE PROCEDURES	457	0.11	457	0.10
213	PROSTATE NEEDLE AND PUNCH BIOPSY	22	0.01	22	0.00
214	TRANSURETHRAL RESECTION OF PROSTATE & OT	37	0.01	37	0.01
235	ARTIFICIAL FERTILIZATION	17	0.00	17	0.00
236	PROCEDURES FOR PREGNANCY AND NEONATAL CA	441	0.10	441	0.10
237	TREATMENT OF SPONTANEOUS ABORTION	34	0.01	34	0.01
238	THERAPEUTIC ABORTION	4	0.00	4	0.00
239	VAGINAL DELIVERY	314	0.07	314	0.07
240	FEMALE GENITAL ENDOSCOPY	390	0.09	390	0.09
241	COLPOSCOPY	432	0.10	432	0.10
242	MISCELLANEOUS FEMALE REPRODUCTIVE PROCED	645	0.15	645	0.14
243	DILATION AND CURETTAGE	307	0.07	307	0.07
244	FEMALE GENITAL EXCISION AND REPAIR	73	0.02	73	0.02
261	ELECTROENCEPHALOGRAM	384	0.09	384	0.09
262	ELECTROCONVULSIVE THERAPY	72	0.02	72	0.02
263	NERVE AND MUSCLE TESTS	626	0.15	626	0.14
264	INJECTION OF SUBSTANCE INTO SPINAL CORD	147	0.03	147	0.03
265	SUBDURAL AND SUBARACHNOID TAP	4	0.00	4	0.00
266	NERVE INJECTION AND STIMULATION	120	0.03	120	0.03
267	REVISION AND REMOVAL OF NEUROLOGICAL DEV	1	0.00	1	0.00
268	NEUROSTIMULATOR AND VENTRICULAR SHUNT IM	5	0.00	5	0.00
269	CARPAL TUNNEL RELEASE	85	0.02	85	0.02
270	NERVE REPAIR AND DESTRUCTION	33	0.01	33	0.01
271	COMPLEX NERVE REPAIR	4	0.00	4	0.00
272	SPINAL TAP	103	0.02	103	0.02
287	MINOR OPHTHALMOLOGICAL TESTS AND PROCEDU	591	0.14	591	0.13
288	FITTING OF CONTACT LENSES	40	0.01	40	0.01
289	SIMPLE LASER EYE PROCEDURES	47	0.01	47	0.01
290	COMPLEX LASER EYE PROCEDURES	34	0.01	34	0.01
291	CATARACT PROCEDURES	167	0.04	167	0.04
292	SIMPLE ANTERIOR SEGMENT EYE PROCEDURES F	2	0.00	2	0.00
293	COMPLEX ANTERIOR SEGMENT EYE PROCEDURES	7	0.00	7	0.00
294	SIMPLE ANTERIOR SEGMENT EYE PROCEDURES E	29	0.01	29	0.01
295	MODERATE ANTERIOR SEGMENT EYE PROCEDURES	9	0.00	9	0.00
296	COMPLEX ANTERIOR SEGMENT EYE PROCEDURES	7	0.00	7	0.00
297	SIMPLE POSTERIOR SEGMENT EYE PROCEDURES	12	0.00	12	0.00
298	COMPLEX POSTERIOR SEGMENT EYE PROCEDURES	35	0.01	35	0.01
299	STRABISMUS AND MUSCLE EYE PROCEDURES	33	0.01	33	0.01
300	SIMPLE REPAIR AND PLASTIC PROCEDURES OF	72	0.02	72	0.02
301	COMPLEX REPAIR AND PLASTIC PROCEDURES OF	27	0.01	27	0.01

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APPENDIX A (CONTINUED)

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
313	OTORHINOLARYNGOLOGIC FUNCTION TESTS	65	0.02	65	0.01
314	MAJOR EXTERNAL EAR PROCEDURES	5	0.00	5	0.00
315	TYMPANOSTOMY AND OTHER SIMPLE MIDDLE EAR	399	0.09	399	0.09
316	TYMPANOPLASTY AND OTHER COMPLEX MIDDLE E	60	0.01	60	0.01
317	INNER EAR PROCEDURES	3	0.00	3	0.00
318	SIMPLE AUDIOMETRY	1501	0.35	1501	0.33
319	REMOVAL OF IMPACTED CERUMEN	130	0.03	130	0.03
341	SIMPLE DIAGNOSTIC NUCLEAR MEDICINE	569	0.13	569	0.13
342	COMPLEX DIAGNOSTIC NUCLEAR MEDICINE	321	0.08	321	0.07
343	THERAPEUTIC NUCLEAR MEDICINE BY INJECTIO	20	0.00	20	0.00
344	RADIATION THERAPY	286	0.07	286	0.06
345	OBSTETRICAL ULTRASOUND	1288	0.30	1288	0.29
346	DIAGNOSTIC ULTRASOUND EXCEPT OBSTETRICAL	1696	0.40	1696	0.38
347	HYPERTHERMIA	.	.	.	.
348	MAGNETIC RESONANCE IMAGING	309	0.07	309	0.07
349	COMPUTERIZED AXIAL TOMOGRAPHY	1590	0.38	1590	0.35
350	MAMMOGRAPHY	1650	0.39	1650	0.37
351	PLAIN FILM	22316	5.28	22316	4.94
352	FLUOROSCOPY	23	0.01	23	0.01
353	CEREBRAL, PULMONARY, CERVICAL AND SPINAL	42	0.01	42	0.01
354	VENOGRAPHY OF EXTREMITY	37	0.01	37	0.01
355	NON-CARDIAC, NON-CEREBRAL VASCULAR RADIO	60	0.01	60	0.01
356	DIGESTIVE RADIOLOGY	1019	0.24	1019	0.23
357	UROGRAPHY AND GENITAL RADIOLOGY	418	0.10	418	0.09
358	ARTHROGRAPHY	24	0.01	24	0.01
359	MYELOGRAPHY	30	0.01	30	0.01
360	MISCELLANEOUS RADIOLOGY	4	0.00	4	0.00
365	ANESTHESIA	.	.	.	.
391	SIMPLE PATHOLOGY	6700	1.58	6700	1.48
392	COMPLEX PATHOLOGY	41	0.01	41	0.01
417	TISSUE TYPING	101	0.02	101	0.02
418	HUMAN TISSUE CULTURE	5	0.00	5	0.00
419	SIMPLE IMMUNOLOGY TESTS	3525	0.83	3525	0.78
420	COMPLEX IMMUNOLOGY TESTS	784	0.19	784	0.17
421	SIMPLE MICROBIOLOGY TESTS	6007	1.42	6007	1.33
422	COMPLEX MICROBIOLOGY TESTS	635	0.15	635	0.14
423	SIMPLE ENDOCRINOLOGY TESTS	432	0.10	432	0.10
424	COMPLEX ENDOCRINOLOGY TESTS	103	0.02	103	0.02
425	BASIC CHEMISTRY TESTS	5490	1.30	5490	1.22
426	SIMPLE CHEMISTRY TESTS	11556	2.73	11556	2.56
427	COMPLEX CHEMISTRY TESTS	1919	0.45	1919	0.42
428	MULTICHANNEL CHEMISTRY TESTS	5128	1.21	5128	1.14
429	SIMPLE TOXICOLOGY TESTS	60	0.01	60	0.01
430	COMPLEX TOXICOLOGY TESTS	45	0.01	45	0.01
431	URINALYSIS	7791	1.84	7791	1.73
432	THERAPEUTIC DRUG MONITORING	476	0.11	476	0.11

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APPENDIX A (CONTINUED)

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
433	RADIOIMMUNOASSAY TESTS	2702	0.64	2702	0.60
434	SIMPLE CLOTTING TESTS	1055	0.25	1055	0.23
435	COMPLEX CLOTTING TESTS	28	0.01	28	0.01
436	SIMPLE HEMATOLOGY TESTS	12408	2.93	12408	2.75
437	COMPLEX HEMATOLOGY TESTS	166	0.04	166	0.04
439	LITHIUM LEVEL MONITORING	50	0.01	50	0.01
440	BLOOD AND URINE DIPSTICK TESTS	397	0.09	397	0.09
443	SPIROMETRY AND RESPIRATORY THERAPY	892	0.21	892	0.20
444	INFUSION THERAPY EXCEPT CHEMOTHERAPY	25	0.01	25	0.01
447	CARDIOGRAM	2585	0.61	2585	0.57
449	SIMPLE IMMUNIZATION	2883	0.68	2883	0.64
450	MODERATE IMMUNIZATION	334	0.08	334	0.07
451	COMPLEX IMMUNIZATION	7	0.00	7	0.00
452	MINOR GYNECOLOGICAL PROCEDURES	67	0.02	67	0.01
454	MINOR DOPPLER, ECG MONITORING & AMBULATO	479	0.11	479	0.11
455	MINOR OPHTHALMOLOGICAL INJECTION, SCRAPI	101	0.02	101	0.02
456	VESTIBULAR FUNCTION TESTS	69	0.02	69	0.02
457	MINOR URINARY TUBE CHANGE	3	0.00	3	0.00
458	SIMPLE ANOSCOPY	53	0.01	53	0.01
459	BIOFEEDBACK AND HYPNOTHERAPY	18	0.00	18	0.00
460	PROVISION OF VISION AIDS	422	0.10	422	0.09
461	INTRODUCTION OF NEEDLE AND CATHETER	8225	1.94	8225	1.82
469	PROFESSIONAL SERVICE	138276	32.69	138276	30.62
470	INDIVIDUAL PSYCHOTHERAPY	1806	0.43	1806	0.40
471	GROUP PSYCHOTHERAPY	1201	0.28	1201	0.27
472	PSYCHOTROPIC MEDICATION MANAGEMENT	517	0.12	517	0.11
473	COMPREHENSIVE PSYCHIATRIC EVALUATION AND	14915	3.53	14915	3.30
474	FAMILY PSYCHOTHERAPY	2206	0.52	2206	0.49
475	RADIOLOGICAL SUPERVISION AND INTERPRETAT	434	0.10	434	0.10
478	THERAPEUTIC RADIOLOGY PLANNING AND DEVIC	326	0.08	326	0.07
500	CLASS ONE CHEMOTHERAPY DRUGS	.	.	.	.
501	CLASS TWO CHEMOTHERAPY DRUGS	.	.	.	.
502	CLASS THREE CHEMOTHERAPY DRUGS	.	.	.	.
601	HEMATOLOGICAL MALIGNANCY	1	0.00	357	0.08
602	PROSTATIC MALIGNANCY	.	.	76	0.02
603	LUNG MALIGNANCY	.	.	165	0.04
604	SKIN MALIGNANCY	2	0.00	109	0.02
605	MALIGNANCIES EXCEPT HEMATOLOGICAL, PROST	11	0.00	1151	0.25
616	POISONING	5	0.00	310	0.07
631	HEAD AND SPINE INJURY	.	.	209	0.05
632	BURNS, AND SKIN AND SOFT TISSUE INJURY	36	0.01	2187	0.48
633	FRACTURE, DISLOCATION AND SPRAIN	35	0.01	2717	0.60
634	OTHER INJURIES	1	0.00	168	0.04
654	INDIVIDUAL SUPPORTIVE TREATMENT FOR SENI	.	.	35	0.01
655	PSYCHOTROPIC MEDICATION MANAGEMENT AND B	13	0.00	1312	0.29
656	COMPREHENSIVE PSYCHIATRIC EVALUATION AND	.	.	68	0.02

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APPENDIX A (CONTINUED)

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
657	COMPREHENSIVE PSYCHIATRIC EVALUATION AND	.	.	32	0.01
658	FAMILY PSYCHOTHERAPY	.	.	13	0.00
659	GROUP PSYCHOTHERAPY	.	.	1	0.00
664	COMPREHENSIVE THERAPY FOR DRUG ABUSE WIT	.	.	.	.
667	COMPREHENSIVE THERAPY FOR DRUG ABUSE WIT	1	0.00	6	0.00
668	MEDICATION MANAGEMENT AND BRIEF PSYCHOTH	1	0.00	72	0.02
669	FAMILY THERAPY FOR DRUG ABUSE	.	.	.	.
670	GROUP THERAPY FOR DRUG ABUSE	.	.	.	.
676	NEONATE AND CONGENITAL ANOMALY	.	.	172	0.04
691	ROUTINE PRENATAL CARE	.	.	11	0.00
692	MATERNAL ANTEPARTUM COMPLICATION	1	0.00	23	0.01
693	ROUTINE POSTPARTUM CARE	.	.	3	0.00
694	MATERNAL POSTPARTUM COMPLICATION	.	.	13	0.00
721	SYSTEMIC INFECTIOUS DISEASE	28	0.01	1667	0.37
723	SEXUALLY TRANSMITTED DISEASE IN MALES	.	.	13	0.00
724	SEXUALLY TRANSMITTED DISEASE IN FEMALES	19	0.00	1623	0.36
736	TIA, CVA AND OTHER CEREBROVASCULAR EVENT	.	.	167	0.04
737	HEADACHE	11	0.00	1368	0.30
738	CENTRAL NERVOUS SYSTEM DISEASES EXCEPT T	14	0.00	1572	0.35
751	CATARACTS	.	.	110	0.02
752	REFRACTION DISORDER	8	0.00	157	0.03
753	CONJUNCTIVITIS AND OTHER SIMPLE EXTERNAL	33	0.01	695	0.15
754	EYE DISEASE EXCEPT CATARACT,REFRACTION D	13	0.00	1201	0.27
766	DENTAL DISEASE	5	0.00	121	0.03
767	ACUTE INFECTIOUS EAR, NOSE AND THROAT DI	113	0.03	3936	0.87
768	ACUTE INFECTIOUS EAR, NOSE AND THROAT DI	264	0.06	10242	2.27
769	ACUTE NONINFECTIOUS EAR, NOSE AND THROAT	29	0.01	1622	0.36
771	HEARING LOSS	3	0.00	117	0.03
772	OTHER EAR, NOSE, THROAT AND MOUTH DISEAS	28	0.01	1191	0.26
781	EMPHYSEMA, CHRONIC BRONCHITIS AND ASTHMA	10	0.00	2282	0.51
782	EMPHYSEMA, CHRONIC BRONCHITIS AND ASTHMA	24	0.01	1538	0.34
783	PNEUMONIA	2	0.00	600	0.13
784	RESPIRATORY DISEASE EXCEPT EMPHYSEMA,CHR	2	0.00	536	0.12
796	CONGESTIVE HEART FAILURE AND ISCHEMIC HE	1	0.00	684	0.15
797	HYPERTENSION	25	0.01	3971	0.88
800	CARDIOVASCULAR DISEASE EXCEPT CHF,ISCHEM	15	0.00	2120	0.47
811	NONINFECTIOUS GASTROENTERITIS	13	0.00	1039	0.23
812	ULCERS, GASTRITIS AND ESOPHAGITIS	7	0.00	834	0.18
813	FUNCTIONAL GASTROINTESTINAL DISEASE AND	3	0.00	307	0.07
814	HEPATOBILIARY DISEASE	6	0.00	383	0.08
816	HEMORRHOIDS AND OTHER ANAL-RECTAL DISEAS	5	0.00	299	0.07
817	OTHER GASTROINTESTINAL DISEASES	25	0.01	2886	0.64
827	MAJOR SIGNS, SYMPTOMS AND FINDINGS	.	.	145	0.03
841	BACK DISORDERS	10	0.00	1172	0.26
842	MUSCULOSKELETAL DISEASES EXCEPT BACK DIS	84	0.02	5423	1.20
856	DISEASE OF NAILS	4	0.00	202	0.04

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APPENDIX A (CONTINUED)

AMBULATORY PATIENT GROUP FREQUENCIES, ENCOUNTER SAMPLE FILE

APG	TITLE	FREQ	PERCENT	ADJUSTED FREQ	ADJUSTED PERCENT
857	CHRONIC SKIN ULCER	1	0.00	63	0.01
858	CELLULITIS, IMPETIGO AND LYMPHANGITIS	9	0.00	537	0.12
859	BREAST DISEASE	15	0.00	857	0.19
860	OTHER SKIN DISEASES	139	0.03	4894	1.08
871	DIABETES	5	0.00	1621	0.36
872	OBESITY	.	.	60	0.01
873	ENDOCRINE,NUTRITIONAL & METABOLIC DISEAS	13	0.00	2244	0.50
886	URINARY TRACT INFECTION	25	0.01	1590	0.35
887	RENAL FAILURE	1	0.00	46	0.01
888	URINARY DISEASE EXCEPT URINARY TRACT INF	13	0.00	842	0.19
901	BENIGN PROSTATIC HYPERTROPHY	3	0.00	133	0.03
902	MALE REPRODUCTIVE DISEASES EXCEPT BENIGN	11	0.00	407	0.09
916	FEMALE GYNECOLOGIC DISEASE	31	0.01	3601	0.80
932	AIDS RELATED COMPLEX & HIV INFECTION WIT	.	.	7	0.00
933	OTHER IMMUNOLOGIC AND HEMATOLOGIC DISEAS	9	0.00	817	0.18
946	ADULT MEDICAL EXAMINATION	.	.	148	0.03
947	WELL CHILD CARE	6	0.00	602	0.13
948	COUNSELING	.	.	28	0.01
949	CONTRACEPTION AND PROCREATIVE MANAGEMENT	5	0.00	237	0.05
950	REPEAT PRESCRIPTION	.	.	.	.
951	NONSPECIFIC SIGNS & SYMPTOMS & OTHER CON	24	0.01	3117	0.69
959	ADMITTED OR DIED	5	0.00	10622	2.35
995	INPATIENT PROCEDURE	.	.	.	.
996	NOT APPLICABLE PROCEDURE	.	.	.	.
997	NO APG ASSIGNED; PROCEDURE OR ANCILLARY	.	.	.	.
998	NO APG ASSIGNED; ILLOGICAL DIAGNOSIS ASS	.	.	.	.
999	UNGROUPABLE	117719	27.83	55654	12.32

RCE OF DATA: TRI-SERVICE CHAMPUS STATISTICAL DATABASE, CHAMPUS PROFESSIONAL SERVICES CLASSIFICATION STUDY FILES.
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APPENDIX B

VARIABLE FREQUENCIES, BETA TEST OF APGS

APPENDIX B

VARIABLE FREQUENCIES, BETA TEST OF APGS

AGE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	10890	6.2	10890	6.2
1	4941	2.8	15831	9.0
2	3138	1.8	18969	10.7
3	2520	1.4	21489	12.1
4	2464	1.4	23953	13.5
5	2115	1.2	26068	14.7
6	2210	1.2	28278	16.0
7	2042	1.2	30320	17.1
8	1920	1.1	32240	18.2
9	1772	1.0	34012	19.2
10	1694	1.0	35706	20.2
11	1726	1.0	37432	21.2
12	1920	1.1	39352	22.2
13	2211	1.3	41563	23.5
14	2539	1.4	44102	24.9
15	2820	1.6	46922	26.5
16	2887	1.6	49809	28.2
17	2858	1.6	52667	29.8
18	2701	1.5	55368	31.3
19	2607	1.5	57975	32.8
20	2542	1.4	60517	34.2
21	2251	1.3	62768	35.5
22	2010	1.1	64778	36.6
23	1928	1.1	66706	37.7
24	2189	1.2	68895	39.0
25	2040	1.2	70935	40.1
26	2054	1.2	72989	41.3
27	1978	1.1	74967	42.4
28	2035	1.2	77002	43.5
29	1909	1.1	78911	44.6
30	1851	1.0	80762	45.7
31	1908	1.1	82670	46.7
32	1856	1.0	84526	47.8
33	1817	1.0	86343	48.8
34	1584	0.9	87927	49.7
35	1571	0.9	89498	50.6
36	1602	0.9	91100	51.5
37	1926	1.1	93026	52.6
38	1602	0.9	94628	53.5
39	1719	1.0	96347	54.5
40	1881	1.1	98228	55.5
41	1906	1.1	100134	56.6
42	2118	1.2	102252	57.8
43	1619	0.9	103871	58.7
44	1886	1.1	105757	59.8
45	2190	1.2	107947	61.0

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

AGE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
46	2226	1.3	110173	62.3
47	2590	1.5	112763	63.8
48	2544	1.4	115307	65.2
49	2563	1.4	117870	66.6
50	2646	1.5	120516	68.1
51	3238	1.8	123754	70.0
52	3251	1.8	127005	71.8
53	3310	1.9	130315	73.7
54	3474	2.0	133789	75.6
55	3711	2.1	137500	77.7
56	4233	2.4	141733	80.1
57	3783	2.1	145516	82.3
58	4016	2.3	149532	84.5
59	4282	2.4	153814	87.0
60	4281	2.4	158095	89.4
61	3806	2.2	161901	91.5
62	4126	2.3	166027	93.9
63	4737	2.7	170764	96.5
64	4741	2.7	175505	99.2
65	90	0.1	175595	99.3
66	119	0.1	175714	99.3
67	92	0.1	175806	99.4
68	94	0.1	175900	99.5
69	177	0.1	176077	99.6
70	88	0.0	176165	99.6
71	46	0.0	176211	99.6
72	135	0.1	176346	99.7
73	68	0.0	176414	99.7
74	38	0.0	176452	99.8
75	26	0.0	176478	99.8
76	27	0.0	176505	99.8
77	39	0.0	176544	99.8
78	30	0.0	176574	99.8
79	60	0.0	176634	99.9
80	59	0.0	176693	99.9
81	81	0.0	176774	99.9
82	59	0.0	176833	100.0
83	8	0.0	176841	100.0
84	2	0.0	176843	100.0
85	13	0.0	176856	100.0
86	2	0.0	176858	100.0
87	3	0.0	176861	100.0
90	7	0.0	176868	100.0

APPENDIX.B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

SEX	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	59228	33.5	59228	33.5
2	117640	66.5	176868	100.0

DISCHG STATUS	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
01	151311	85.6	151311	85.6
02	25557	14.4	176868	100.0

PATIENT TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	35076	19.8	35076	19.8
1	20423	11.5	55499	31.4
2	28867	16.3	84366	47.7
3	92502	52.3	176868	100.0

APG STATUS	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	126664	71.6	126664	71.6
1	14532	8.2	141196	79.8
2	33304	18.8	174500	98.7
3	2368	1.3	176868	100.0

MEDICAL APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	443	1.2	443	1.2
3	35076	98.3	35519	99.6
4	126	0.4	35645	99.9
5	27	0.1	35672	100.0

FREQUENCY MISSING = 141196

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

MAPGSSF	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0700	2	1.4	2	1.4
0704	1	0.7	3	2.1
25010	36	24.8	39	26.9
25020	1	0.7	40	27.6
2510	10	6.9	50	34.5
3453	2	1.4	52	35.9
4271	19	13.1	71	49.0
42742	8	5.5	79	54.5
4275	22	15.2	101	69.7
4410	1	0.7	102	70.3
4411	2	1.4	104	71.7
53310	1	0.7	105	72.4
53350	1	0.7	106	73.1
5513	2	1.4	108	74.5
5722	6	4.1	114	78.6
7816	1	0.7	115	79.3
7854	4	2.8	119	82.1
7990	10	6.9	129	89.0
7991	16	11.0	145	100.0

FREQUENCY MISSING = 176723

PROC 1 APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	13053	7.4	13053	7.4
2	29273	16.6	42326	23.9
3	122282	69.1	164608	93.1
5	12260	6.9	176868	100.0

PAPGERR2	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	8580	12.5	8580	12.5
2	36193	52.9	44773	65.4
3	19796	28.9	64569	94.4
5	3845	5.6	68414	100.0

FREQUENCY MISSING = 108454

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

PROC 3 APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	3984	11.2	3984	11.2
2	21633	60.8	25617	72.0
3	8207	23.1	33824	95.0
5	1766	5.0	35590	100.0

FREQUENCY MISSING = 141278

PROC 4 APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	1907	9.6	1907	9.6
2	12410	62.5	14317	72.1
3	4598	23.1	18915	95.2
5	950	4.8	19865	100.0

FREQUENCY MISSING = 157003

PROC 5 APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	894	7.7	894	7.7
2	7739	66.7	8633	74.4
3	2409	20.8	11042	95.2
5	560	4.8	11602	100.0

FREQUENCY MISSING = 165266

PROC 6 APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	503	7.1	503	7.1
2	4775	67.0	5278	74.1
3	1481	20.8	6759	94.9
5	364	5.1	7123	100.0

FREQUENCY MISSING = 169745

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

PROC 7 APG ERROR	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	291	6.4	291	6.4
2	3140	68.6	3431	75.0
3	908	19.8	4339	94.8
5	237	5.2	4576	100.0

FREQUENCY MISSING = 172292

PROC 1 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	1010	8.2	1010	8.2
2	10339	84.3	11349	92.6
3	911	7.4	12260	100.0

FREQUENCY MISSING = 164608

PROC 2 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	420	10.9	420	10.9
2	2698	70.2	3118	81.1
3	727	18.9	3845	100.0

FREQUENCY MISSING = 173023

PROC 3 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	225	12.7	225	12.7
2	1113	63.0	1338	75.8
3	428	24.2	1766	100.0

FREQUENCY MISSING = 175102

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

PROC 4 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	98	10.3	98	10.3
2	610	64.2	708	74.5
3	242	25.5	950	100.0

FREQUENCY MISSING = 175918

PROC 5 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	51	9.1	51	9.1
2	339	60.5	390	69.6
3	170	30.4	560	100.0

FREQUENCY MISSING = 176308

PROC 6 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	27	7.4	27	7.4
2	206	56.6	233	64.0
3	131	36.0	364	100.0

FREQUENCY MISSING = 176504

PROC 7 APG TYPE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	15	6.3	15	6.3
2	148	62.4	163	68.8
3	74	31.2	237	100.0

FREQUENCY MISSING = 176631

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

CONS1	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	176744	99.9	176744	99.9
1	124	0.1	176868	100.0

CONS2	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	172911	97.8	172911	97.8
1	3957	2.2	176868	100.0

CONS3	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	173375	98.0	173375	98.0
1	3493	2.0	176868	100.0

CONS4	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	174771	98.8	174771	98.8
1	2097	1.2	176868	100.0

CONS5	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	175604	99.3	175604	99.3
1	1264	0.7	176868	100.0

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

CONS6	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	176035	99.5	176035	99.5
1	833	0.5	176868	100.0

CONS7	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	176319	99.7	176319	99.7
1	549	0.3	176868	100.0

ANCPK1	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	51270	29.0	51270	29.0
1	125598	71.0	176868	100.0

ANCPK2	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	134492	76.0	134492	76.0
1	42376	24.0	176868	100.0

ANCPK3	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	154001	87.1	154001	87.1
1	22867	12.9	176868	100.0

APPENDIX B (CONTINUED)

VARIABLE FREQUENCIES, BETA TEST OF APGS

ANCPK4	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	163798	92.6	163798	92.6
1	13070	7.4	176868	100.0

ANCPK5	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	169167	95.6	169167	95.6
1	7701	4.4	176868	100.0

ANCPK6	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	172194	97.4	172194	97.4
1	4674	2.6	176868	100.0

ANCPK7	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	173937	98.3	173937	98.3
1	2931	1.7	176868	100.0

ANCPK8	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
0	78987	44.7	78987	44.7
1	97881	55.3	176868	100.0

SOURCE OF DATA: TRI-SERVICE CHAMPUS STATISTICAL DATABASE, CHAMPUS PROFESSIONAL SERVICES CLASSIFICATION STUDY FILES.